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ABSTRACT

A study analyzed the system of vocational training in Egypt, including school-based and post-school training of different categories of workers at skilled-worker level and craft level. Special attention was given to favorable and unfavorable conditions affecting access to vocational education and training for the benefit of working classes. Systems researched were technical education, apprenticeship, quick (accelerated) training, and skill-upgrading. Desk and field research (interviews and questionnaire) collected data related to education and training of skilled workers, including size of employment and training in the institution, financing training, trainees, curricula, trainers and teachers, methods of training, follow-up, and evaluation. The study determined general educational requirements (cultural levels) required for admission to colleges, institutes, schools, and centers for vocational education; and non-cultural requirements, medical and physical fitness being the most important. It also revealed inadequacies in the technical secondary schools. Two related projects were also studied: the Vocational Gradation Project for young persons, age 12-17, and the Productive Families Project, an economic-social project that helps poor families by providing simple technical, agricultural, and commercial projects for the benefit of poor families. Training programs were found to have quantitative and qualitative shortcomings. (The questionnaire is appended.) (YLB)

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The Arab Republic of Egypt
National Centre for Educational Research
Cairo, Egypt

SURVEYS AND STUDIES IN ADULT EDUCATION

STUDY ON
THE GENERAL EDUCATIONAL REQUIREMENTS FOR ACCESS TO VOCATIONAL EDUCATION IN THE ARAB REPUBLIC OF EGYPT

submitted to Unesco

September 1979

CE 025 994

ED-80/WS/6

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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PREFACE

According to a contract concluded with Unesco, the Centre for Educational Research has undertaken the study on the general educational requirements for access to vocational education in the Arab Republic of Egypt.

The study consists of four chapters as follows:

(1) Chapter 1 gives an introduction about manpower in Egypt. It also gives the objectives of the study.

(2) Chapter 2 deals with the method and procedures adopted in the study. This includes: plans and instrumentation, the questionnaire and the sample.

(3) Chapter 3 gives the findings revealed by the data gathered from different sources.

(4) Chapter 4 gives the conclusions arrived at as well as some recommendations related to the systems of training investigated in the study.

Then we find the references and the appendix containing the full text of the questionnaire.

Concerning the methodology, the scientific technique in collecting the data required for the study was followed. Therefore, we had access to the original reports issued by official specialized bodies such as the National Planning Institute, the Ministries of Industry, Labour, Education, Social Affairs and their specialized agencies as well as private organizations for preparing and training skilled labourers and craftsmen.

Interviews with responsible people in these ministries were arranged with the aim of obtaining the data required for the study and analysing and classifying them.

Questionnaires were also used. A copy of the questionnaire addressed to a sample of the directors of the organizations and factories concerned with the training and vocational orientation of the people working in such organizations and factories who had little or no education is found in the appendix. Those people are the main concern of this study.

The National Centre for Educational Research in Egypt which made this study reviewed the previous studies and recommendations issued by concerned bodies such as the seminar on vocational training for those who finished their education in Arab countries which was held in Baghdad in 1972; the recommendation of the National Council for Education and Scientific Research and Technology in its fourth session 1976-1977, concerning technical and vocational education and training and the workpapers issued by the Ministry of Education in August 1979 concerning vocational education and training.

We have tried to suggest applicable recommendations to raise the cultural and vocational standard of the people the study is concerned with, bearing in mind the possible resources of the Arab Republic of Egypt.

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Chapter 1

Introduction and objectives of the study

Since the late fifties, Egypt has adopted a system of comprehensive national planning to achieve economic and social development in order to catch up with modern rapid developments characterizing the second half of the twentieth century.

Accordingly, several five-year plans have been set up starting with the 1960-1965 plan. Attempts are being made to set up prospective plans until the year 2000.

Categories of workers

It goes without saying that the human factor is the most important factor of production. Hence, great care has been given to the education and technical and vocational training of the working classes required for the development projects. The working classes include the following levels:

(1) The leaders who plan, supervise, execute and follow up the work. These include engineers and others whose work requires academic knowledge. They are prepared at universities and higher institutes.

(2) Technicians who are the link between the leaders and the skilled workers. There are two types of institutions in Egypt to prepare these technicians: the first are the technical institutes in which the students study theoretical as well as practical subjects for two years after they complete their secondary education, and the second are the technical schools in which the students study a variety of subjects for five years after they complete the junior secondary stage (a three-year programme after the primary stage).

(3) The skilled workers who have had a kind of education and training adequate enough for working in a specific vocation. They are prepared either at technical secondary schools or at training centres after the junior secondary school.

(4) The semi-skilled workers (craftsmen) who depend mainly on training to reach an average standard of skill. Their educational background may be the primary certificate (that is, six years of primary education) or the literacy certificate (that is, a standard equivalent to four years of primary education). They get quick training and some basic information related to their trades before they actually start working at factories and institutions.

(5) The illiterate workers who form a high percentage of working classes and undertake most of the work in rural and urban areas.

Education and training of working classes

Many studies have been made to determine the requirements of the development plans and the education and training of the required workers.

Accordingly, the Ministry of Education drew its policy in the light of these studies and established more industrial, agricultural and commercial secondary schools which prepare skilled workers.

Besides, the Ministry of Higher Education started in 1966-1967, establishing industrial institutes for preparing technicians. In 1977-1978, their number amounted to 17 institutes, comprising 12,390 male and female students studying 25 specializations, for two years after completing their secondary education.

Studies undertaken by the National Planning Institute in 1960, predicted a surplus of unskilled workers over the ten years from 1970-1980. However, there have been some economic and social variables in the Arab countries which have attracted more than one million-and-a-half workers from the Egyptian labour force to work in these countries for higher wages. Besides, the land reclamation projects in rural areas, as well as building and reconstruction and other new projects in Egyptian urban areas have absorbed hundreds of thousands of technicians and their assistants of skilled, semi-skilled and unskilled workers. Consequently, there has been evident shortage in some trades.

Resources for training

To cope with the problem, specialized organizations(1) and departments(2) have been established to plan and develop training activities. This has led to the establishment of centres for quick (accelerated) training to prepare tens of thousands of workers every year to provide trained labour required for Egypt and friendly countries and to upgrade productivity in various fields.

In 1976, the High Council for Planning and Training of the Labour Force was established with the aim of determining the responsibilities of various organizations and centres concerned with planning and training of the labour force and coordinating their activities and presenting guidelines for setting up the required plans, making use of the survey of available resources prepared by the Ministry of Labour and Training.

Data gathered about various systems of training will be presented in part two of this report.

Objectives of the study

This study aims at analysing the existing system of vocational training in Egypt, including school-based and post-school training of different categories of workers at skilled-worker level and craft level. Special attention will be given to favourable and unfavourable conditions affecting access to vocational education and training for the benefit of working classes. Problems hindering or debarring workers from further training at a higher level will be discussed with the aim of arriving at recommendations to solve them.

The study will include the education and training of workers according to the following systems:

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(1) For example, the Training Organization for Construction and Building at the Ministry of Housing, and the Public Organization for Industrialization at the Ministry of Industry and Mineral Wealth.

(2) For example, the Production Efficiency and Vocational Training Department at the Ministry of Industry.

First: Technical education

Second: Apprenticeship

Third: Quick (accelerated) training

Fourth: Skill - upgrading.

There are also two projects which are relevant to the study, namely:

The vocational gradation project

The productive families project.

Chapter 2

Method and procedures

In this chapter we are going to explain the plan and instrumentation used in the study including the questionnaire prepared for the purpose. Then we give a detailed description of the sample.

(a) Plan and instrumentation

In order to obtain data for the study, two types of research have been undertaken:

(1) Desk research which implied examining records and documents concerning vocational education and training. These official documents have been obtained from different ministries, training centres, factories and various institutions, as indicated in references made to these sources in the course of the report.

(2) Field research which implied paying visits to different offices, factories, centres and other institutions where meetings were held with responsible people and employers as well as various categories of workers whenever possible.

Besides interviews with these people, a questionnaire, prepared for the purpose, was also used to gather data concerning various aspects of and different attitudes towards vocational training.

The questionnaire

The questionnaire consists of seven divisions, dealing with: size of employment and training in the institution, financing training, trainees, curricula, trainers and teachers, methods of training, follow-up and evaluation (see Appendix).

(b) The sample

This field study comprised four types of organizations and centres representing all institutions concerned with the problem as shown below:

I. Vocational training centres within the domains of certain ministries. These are:

(a) centres belonging to the Ministry of Industry and Mineral Wealth: such centres prepare for industrial apprenticeship as well as the rapid vocational training amounting to 46 centres of which 21 are found in Cairo. They prepare a yearly average of 6,000 workers (2,000 semi-skilled and 4,000 skilled);

(b) centres belonging to the Ministry of Housing and Reconstruction: these prepare for rapid training and amount to 36 centres all over the Republic. It is planned that they should amount to 65 centres. Some of these centres belong to the Ministry of Housing and Reconstruction while the others are part of the industrial secondary schools of the Ministry of Education;

(c) centres belonging to the Ministry of Social Affairs: (37 centres all over the Republic). There are only three in Cairo;

(d) centres for quick vocational training belonging to the Ministry of Labour and Training. These include two types:

(i) centres for vocational training for those between 12-18 years. The number of those who successfully finished their training in Cairo was 545 in 1978. The 1979 plan included the training of about 400 more;

(ii) centres for quick vocational training for people between 18-45 years. The number of those undergoing training in 1979 is 500 people in Cairo.

II. Centres belonging to factories, companies and industrial organizations belonging to the government and public sector: some of them are in Cairo such as:

Fish Marketing Company

The General Nile Company for Roads and Bridges

Iron and Steel Company at Helwan

SOGAT Company for Underwear

Ezbet El-Makhle Textile Company

Misr Helwan Company for Spinning and Weaving

Egyptian Company for Light Transport

Cairo Secondary School for Weaving in Shoubra.

The average number of people who are trained before and during their vocational practice in these companies and organizations ranges from 100 to 500 yearly.

III. Private sector workshop centres such as:

Zeitoun Cosmetic Company

Awlad El-Houseiny Weaving Factory

Oxygen Welding Workshop.

Chapter 3

Findings

Two types of data have been gathered: the first are related to the education and training of skilled workers; the second are related to other categories.

The first type of data throws light on: technical education, apprenticeship, quick training and skill upgrading. The second type of data provides information on vocational gradation and productive families.

(a) Technical education

We pointed out in part one that skilled workers have had a kind of education and training adequate enough to work in a specific vocation. We also pointed out that they are prepared either at technical secondary schools or training centres after junior secondary school.

The data gathered about the industrial secondary schools which prepare the bulk of skilled workers in the country and comments on these findings are presented in the following table and paragraphs.

Table 1

Industrial secondary schools

A. Figures

(1) Number of industrial secondary schools: 121 schools[1] (102 for males + 19 for females)

(2) Schools in which there is provision for part-time courses: 18 schools[2]

(3) Number of vocations on which students are trained: 86 vocations[3]

(4) Number of students enrolled in 1978/1979: 131,000 students (89 per cent males + 11 per cent females)

(5) Average number of graduates every year: 33,000 students

(6) Average annual expenditure per student: EE. 160.

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(1) They are all government, full-time, day schools located in cities and towns (i.e. urban areas). They represent 27 per cent of technical schools.

(2) There is provision for quick training programmes (from 3 to 6 months) on different vocations for which there is ample equipment at the school. (N.B.: 22,000 workers received quick training in these schools during the last two years.)

(3) These vocations are grouped under 9 main industries: electrical/electronic/car/textile/decorative arts/architectural/marine/railway engineering/river transportation/printing.

B. Entry requirements

(1) Junior Secondary Certificate

(2) Age: 17-22

(3) Passing medical examination

(4) Passing some psychological tests to determine aptitude for and attitude towards different vocations.

C. Programme

(1) Duration: 3 years

(2) Number of hours of study per week: 44 hours

(3) Contents:

(a) general subjects: Arabic and religious education, two foreign languages (English as first foreign language + French as second foreign language), natural sciences (physics, chemistry and biology) and mathematics;

(b) technological subjects: related to different vocations (electricity, car mechanics, spinning and weaving, etc.);

(c) practical training: in workshops.

(b) Apprenticeship

An apprentice is a worker trained according to a written agreement (contract) on skills required for a certain vocation, and acquiring theoretical knowledge related to the vocation over a period that varies according to differences in vocations, and which is normally three years.

Bases of industrial apprenticeship

The apprenticeship system is based on two important bases:

(1) Setting specifications for training on vocations. This includes:

(a) setting general entry requirements for candidates concerning age and cultural standard;

(b) selecting apprentices on modern scientific and psychological bases;

(c) determining conditions which are required in institutions which apprentices join;

(d) setting specifications for different vocations determining the required vocational standard for each;

(e) setting practical and theoretical curricula at the basic training stage in the centre.

(2) Training and follow-up at the factory. This includes:

(a) setting the programme and specifications of training in the factory;

(b) follow-up of the apprentices to make sure of the implementation of the training plan, solving the psychological and social problems of the apprentices during the period of practical training, and evaluating their work.

Advantages of apprenticeship

(1) Practical training in factories and on machines and types of work they are going to perform in the future.

(2) Getting used to the atmosphere and regulations of the factory.

(3) Benefiting from the cultural, scientific and technological studies.

(4) The participation of industrial organizations in setting specifications of training, and determining the standard of skill suitable for the work to be done.

(5) Co-operation between the government and industrial organizations in paying the cost of training.

(6) Paying per diems of about 40 piastres (about half a dollar) to the apprentice during his training both at the centre and the factory to motivate him.

(7) Postponing the military service of the apprentice until he graduates, and treating him on equal footing with highly qualified graduates.

The following table presents a summary of data obtained about the apprenticeship system.

Table 2

The apprenticeship system

(1) Controlled and organized by: the Ministry of Industry and Mineral Wealth

(2) Duration: 3 years, including two cycles:

	Cycle I	Cycle II
Duration:	1 year of basic training	2 years of practical training
Location:	vocational training centres	factories

Entry requirements:

(1) Age: 14-19 years[1]

(2) Educational requirement: Junior Secondary Certificate

(3) Passing psychological tests, interviews and medical examination to determine fitness and suitability for the vocation.

(1) Maximum age may be extended to 22 years, for persons exempted from military service.

Specifications of factories:

(1) Availability of suitable equipment.

(2) Availability of efficient trainers.

(3) Adequacy of hygienic conditions, such as ventilation and lighting.

(4) Willingness of employers to provide a favourable atmosphere for training, and to co-operate in implementing the training plan and to help persons responsible for follow-up and control of trainees.

(N.B. The responsibilities of the employer, trainee and parent are specified in the contract signed by the three parties. This contract is supplemented by the specifications of the vocation.)

Courses and hours of study

Theoretical studies, including:

(a) technology, mathematics, general science and industrial security;

(b) languages, cultural and social studies.

588 hours over 42 weeks (1 year) - first year: 368 hours; second year: 352 hours

Practical training - in the centre's workshops - in the factory

1,008 hours over 42 weeks (one year) - 3,150 hours over the two years

(N.B. The total number of training hours over the three years amounts to 4,158 hours.

The number of trainees, the required skills and hours of training on each skill are determined jointly by the Department of Production Efficiency (at the Ministry of Industry and Mineral Wealth) and the factory authorities.)

Vocations for apprenticeship

The vocations on which apprentices are trained include the following: metalwork (e.g. filing, smithing, welding, plumbing, etc.), car mechanics, air-conditioning and cooling, electrical industries, instruments, chemical industries, mining, spinning and weaving, printing and binding, etc.

At the end of the apprenticeship period, a final exam is held and the graduate is given a certificate.

(c) Quick training

In view of the quick needs of industry for great numbers of trained workers to upgrade the productivity of existing factories, or to cope with the needs of new factories, the system of quick training has been adopted.

Organizing the programmes

(1) The training and vocational guidance authorities determine the vocations on which the workers are to be trained according to the needs of the labour market.

(2) Through contacts and field visits, training centres are to be determined according to the availability of suitable facilities, trainers and supervisors.

(3) Programmes (which are mainly practical), training hours' duration are determined in collaboration with the institutions where training is going to take place, on the basis of a careful analysis of the vocations and required skills.

(4) This training extends over a period ranging from 3 to 6 months at a rate of 35 hours a week, 3 hours of which are devoted to theoretical study of technology, mathematics and industrial drawing related to the vocations.

(5) Applications for this system of training are submitted before the training sessions are held, and according to dates fixed every year and published in newspapers and put up in offices and training centres.

Entry requirements

(1) Candidates' age should range between 18 and 30 (45 in some cases).

(2) Mastering reading and writing is a requirement for all programmes. Some candidates may be holders of the Junior Secondary Certificate.

(3) Passing vocational guidance tests administered by specialists in vocational guidance. Trainees are allocated to occupations according to their abilities and aptitudes.

(4) The physical fitness of the trainee is determined by the doctor of industrial security, or by a government hospital.

(5) Training is free of charge.

Follow-up and evaluation

(1) Follow-up visits are made by representatives of the Training and Vocational Guidance Unit to the centres to check attendance and efficiency of the work.

(2) At the end of the specified period for training, a board of examiners undertakes the responsibility of evaluating the trainees. This board usually comprises the director of the labour office, representatives of the training unit in the district, and of the institution where training has taken place.

(3) Certificates indicating successful completion of training are given to graduates within one month of the announcement of the result of the exam.

Priorities for admission to quick training programmes

(1) People released from the Armed Forces.

(2) People released from prisons and recommended by security authorities.

(3) Unskilled workers (unemployed or newly employed).

(4) Workers employed in stagnant vocations.

(5) Employed unskilled workers seeking better jobs.

(6) Surplus workers in different vocations. In this case, an official approval has to be obtained from their employers for those whose training is essential.

(7) Agricultural workers recommended by the Committee for Developing Rural Areas.

Examples of quick training programmes

It seems feasible to give examples of some actual major problems related to shortage in some vocations and the growing need for them, in order to realize the importance of quick training to cope with this shortage.

The examples cited here come from: (a) the Ministry of Housing and Reconstruction; and (b) the Ministry of Industry and Mineral Wealth.

(a) The Ministry of Housing and Reconstruction

The building industry in Egypt employs three main categories of labour.

(1) The first category includes: self-employed craftsmen who work in the construction and maintenance of buildings in the rural and urban areas which are needed by the common citizen. Most buildings of this kind are below standard in so far as quality and specifications are concerned.

(2) The second category includes: the labour force employed by contractors whose scales of activity are limited, and who employ less complex resources in executing most of the housing projects as subcontractors for the big companies.

(3) The third category includes: the labour force which applies advanced scientific and technological methods and which plays an important role in the execution of giant projects of economic development and reconstruction.

It has been noticed that the relative importance of each of these three categories of labour has been fluctuating up and down following the increase and decrease of investment and in the change in the rate of development of the country. However, after the State had started long-term planning and followed the principles of standardization and utilization of prefabricated structures, the need for modern scientific training, and especially on the developed methods of execution became quite evident.

Shortage in craftsmen

However, one of the major problems which face the building industry at present is the continuous shrinkage in the volume of skilled craftsmen, due to many reasons the most important of which are:

(a) The tendency of a large number of craftsmen to work outside the country.

(b) The natural decrease in the numbers of craftsmen due to old age and/or death. Meanwhile, the trend of sons inheriting their fathers' trades, as was prevailing before, has declined.

This is one of the aspects of a general inclination of youth towards academic education or work in other sectors of the economy like industry, seeking more stability and better work conditions.

(c) The lack of a stable training policy, in addition to the deficiencies in the existing training centres regarding quantity, quality and modern scientific development.

The quick plan

In order to cope with this problem, the available resources which could be utilized for quick training in the construction and building trades were estimated so that they could be developed and properly equipped to enable them to prepare the largest possible number of craftsmen.

The available resources were:

(1) The training centres under the control of the Training Organization in Construction and Building. These were: Embaba Training Centre established in 1961, Ismailia Training Centre established in 1975 and Suez Training Centre established in 1975.

(2) Four field training centres which adopted the trade inheritage system of training through training the sons and relatives of the employed workers whenever possible, in the following companies: Misr Reinforced Concrete Company, Industrial Projects Company, the Egyptian Incorporated Company, El Nile General Contracting Company.

(3) Training centres under the control of contracting companies. These were the centres under the control of the Arab Contractors Company.

(4) The technical secondary schools in the various governorates, the resources of which could be used after the school day. An agreement was made between the Minister of Housing and Reconstruction and the Minister of Education to organize quick training sessions in 18 schools all over the country, as indicated in a previous part of this study.

(5) Training centres under the control of other ministries. These were the Vocational Formation Centre under the control of the Ministry of Social Affairs, and Port Said Vocational Training Centre under the control of the Ministry of Industry.

(6) The resources and workshops of the General Organization for Sanitary Drainage and Cairo Water Authority, which are specialized authorities for operating these utilities, can be used for organizing quick training sessions to prepare the craftsmen necessary for operating and maintaining the different utilities' stations.

(7) The Training Organization also participated in solving some of the community problems in the Suez Canal zone by establishing a female training centre in Ismailia to train the female supervisors who participated in work in the zone during the battles in cloth-making and tricot work. This centre will be equipped to produce the necessary cloth for the trainees in all the training centres.

It might be feasible to mention that a quick training session lasts for an average of 3 months, during which trainees are given financial incentives and benefits including a per diem incentive of 40 piastres (i.e. little more than half a dollar), a meal costing 10 piastres, an overall dress and a boot costing about 6 pounds (i.e. about 9 dollars) and other incentives to be paid to the trainee after successfully passing the final examination.

The ten-year plan

The Training Organization set up a ten-year plan for quick training in the building trades for the years 1976-1985. The plan aims at expansion in the establishment of quick training centres in the various governorates of Egypt until their number reaches 65 centres, three of which are destined for training the necessary trainers. The capacity of these centres is planned to be 50,000 trainees in addition to 600 trainers yearly.

The estimated financial resources needed for executing this plan are more than 45 million pounds. The new centre will be designed according to modern international standards. Each centre will include: training workshops, teaching classrooms, stores, medical services and administration offices. It will also include playgrounds and a mosque.

(b) The Ministry of Industry and Mineral Wealth

The Ministry of Industry has established many centres for quick training to meet the quick needs of industry for skilled and semi-skilled workers to cope with the shortage resulting from the emigration of hundreds of thousands of workers to Arab countries.

According to data obtained from different sources, we notice the following:

(1) There are 46 centres under the control of the Ministry (21 in Greater Cairo, 11 in Alexandria and the others are distributed among different governorates).

(2) The duties of these centres include:

(a) preparing skilled and semi-skilled workers required for industry in Egypt, according to the following systems:

apprenticeship;

quick training;

skill upgrading;

the average number of workers prepared by these centres every year amounts to about 4,000 skilled and 2,000 semi-skilled workers;

requirements for admission to vocational training centres to prepare skilled workers include:

obtaining the Junior Secondary Certificate;

passing psychological and medical examinations for those whose ages range between 14 and 19 years;

requirements for preparing semi-skilled workers include:

knowledge of reading, writing and fundamentals of arithmetic, i.e. a standard equivalent to that of Primary Certificate;

age ranging between 19 and 30 years;

(b) training supervisors at different supervisory levels, and specialists in: production engineering, economic and marketing research, performance evaluation and industrial security;

(c) training trainers for different centres;

(d) planning and implementing programmes for vocational training and upgrading productivity according to needs of different factories;

(e) preparing administrative consultants required for studying problems of production and offering advice to higher administration to upgrade the productivity of industrial units.

(3) The number of people employed by factories under the supervision of the Ministry of Industry amounted, in 1977, to about 560,000 employees. Their salaries amounted to about 280 million pounds. Production amounted to about 1,990 million pounds worth.

(4) Other projects are under way in the economic and social plans for the period 1978-1982, aiming at raising the standard of living for the masses. The implementation of these projects will create new work opportunities for about 285,000 persons.

(d) Skill upgrading

Under this system, the companies select some workers and supervisors in order to upgrade their technical standard or to promote them to higher grades, and nominate them for this kind of training.

Entry requirements:

Mastering reading and writing.

Not less than five years' experience in the vocation on which the trainee is to be trained.

Passing an interview.

(e) Two relevant projects

So far we have been concerned with the education, training and upgrading of skilled and semi-skilled workers. Besides, we are going to cite two projects, one for young people who have not completed their education, and the other, for poor families.

I. The vocational gradation project

This project is meant for young people who were unable to continue their education, and whose ages range from 12 to 18. Their educational background is equivalent to the fourth grade of the primary stage. This means that they are barely literate, in the sense that they have the basic skills of communication including reading, writing and arithmetic.

It is worth while noting that the project started in 1968, with the aim of protecting young people from any maladjustment, if they remain unemployed, and to protect them from being badly exploited in workshops and other institutions.

It might be feasible to throw light on the following aspects of the project:

(a) arousing awareness of the project and concluding contracts;

(b) nomination for training;

(c) follow-up of trainees;

(d) vocations and periods of training;

(e) the training programmes;

(f) some significant figures.

(a) Arousing awareness of the project and concluding contracts

The person in charge of vocational training at the labour office has to pay visits to institutions in the area of his office, according to a set plan. In these visits he explains to the responsible people in these institutions the nature and objectives of the training programme. If the institution is willing to receive these young people for training, a contract is concluded between the labour office and the institution, within the framework of the following principles:

(1) The labour office nominates the trainees required by the institution according to the terms of training and the times fixed by the institution.

(2) The trainee's age should not be less than 12 and not exceeding 17 years at the time of nomination.

(3) The educational background of the trainee should be stated.

(4) He should be registered in one of the labour offices.

(5) The nominee should have the physical fitness required for different occupations, as well as the age, physical and mental characteristics specified by ministerial resolutions and regulations.

(6) Promising to abide by the obligations included in the contract concluded between the nominee and the institution and endorsed by the office.

(7) Promising to provide facilities for trainees to be able to attend theoretical or technical courses organized by the labour office. The institution should offer every possible technical assistance whenever requested.

(8) Helping the people concerned with administrative and technical follow-up.

(9) Notifying the labour office of the absence, dropping out or injury of the trainee.

(10) It might be stated in the agreement that the institution should employ the graduate trainee.

(11) Special forms are filled by the institution, giving details about its activities and the number, sex, age and educational background of nominees required.

(12) When the labour office receives such forms, the details are entered in a special record to have a full picture of all the institutions and their needs.

(b) Nomination for training

After receiving all the requests of different institutions, and studying them in the light of the needs of the labour market as determined by different sources, nomination for training is made by the labour office in the light of the following principles:

(1) Date of registration of applicants should be given priority in the nomination for training.

(2) Double the required number of candidates should be nominated.

(3) Nomination should be made within a maximum of one week from the date of receiving the request of the institution.

(4) Lists of nominees should be prepared in the light of the cards kept at the office and should be sent to the institution concerned.

(5) The candidate is given a certain form of nomination to be submitted to the institution.

(6) The young candidate is recommended for a certain vocation, according to his abilities and aptitudes as determined in the light of vocational guidance.

(7) The employer's desire to choose certain young people may be considered, provided this choice agrees with the existing rules and regulations.

(c) Follow-up of trainees

(1) A visit should be paid to the institution within a week from the date of nomination.

(2) Training contracts should be concluded with the institution on behalf of the nominees.

(3) If a number of the nominees do not show up, they should be replaced by others to satisfy the needs of the institution.

(4) If a nominee does not accept the nomination, he may be given another chance and may be nominated for another vocation that suits him.

(5) Regular follow-up visits should be made to the institutions every two months, to check the trainees attendance and technical achievement as determined by engineers or technicians together with the director of the labour office. Results of these visits should be recorded in the trainee's card kept at the office. The last reports of these follow-up visits should include a statement of the technical standard of the trainee, and should be considered by the board of examiners.

(d) Vocations and periods of training

A trainee can be trained on any of the following vocations and for the period indicated for each:

for 4 weeks on any of the following: automechanics/auto-electricity and electrical maintenance;

for 11 weeks on any of the following: filing/lathing/welding/thermostatic treatment/tools;

for 15 weeks on: workshop machines;

for 22 weeks on: mechanical maintenance.

Timing of training sessions

Timing for the four sessions of training occurs in:

January/April/July/October.

Training according to this system takes place in the evening (starting 2 p.m.) for 4 hours every day.

(e) The training programmes

(1) A joint committee comprising representatives of the Ministry of Education and the Ministry of Labour sets the programmes and supervises their execution.

(2) The Ministry of Labour finances training. Funds allocated for this training are considered by people in charge to be adequate.(1)

(3) Various kinds of incentives are given to trainees, including a per diem of about 40 piastres (i.e. more than half a dollar), medical care as well as some clothes (an overall and a pair of shoes).

(4) The trainee is trained on one vocation for seven months in the training centre and two months in factories. By the end of this period, he is expected to become a semi-skilled worker.

(5) Courses are of a practical nature, and the items are closely related to the vocation. Courses include 80 per cent practical training and 20 per cent theory related to the vocation. There are no cultural subjects.(2)

(6) There are trainers for practical subjects and teachers for theoretical studies. The trainer is responsible for a class of 10 trainees, whereas a teacher is expected to teach a class of 20 trainees.

(7) At the end of the course, the trainees are evaluated practically and theoretically by a board of examiners comprising representatives of the Ministry of Education, the Ministry of Labour, and businessmen concerned with the vocation for which the trainees have been trained.

(8) Successful trainees are given certificates. Those who fail are given another term not exceeding six months, at the end of which the candidates should sit for another exam.

(9) In all cases, candidates are not allowed to continue after the age of eighteen.

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(1) According to data obtained from a visit to one of these training centres for weaving, the average cost of training amounts to about 90 pounds per head.

(2) The rationale given by the director of one of the centres for the lack of cultural subjects is that the training is vocational and should be closely linked to processes of production.

(f) Some significant figures

It might be feasible to cite some significant figures obtained from recent statistics:

(1) The total graduates of the vocational gradation project in the period 1968/1978, in Cairo, amounted to 138,145 graduates. 9,116 of these graduates were employed in the public sector, and 129,029 were employed in the private sector.

(2) According to the training plan of the project in Cairo, in 1978, the following data may give a vivid picture of the activities involved:

(a)	nominees for training	4,909
(b)	visits to arouse awareness of the project	8,526
(c)	follow-up visits	14,833
(d)	graduates during 1978	1,496
(e)	number of graduates employed in 1978	1,305

II. The productive families project

This is an economic social project aiming at increasing the income of poor families through preparing simple technical, agricultural or commercial projects to be carried out by these families.

The people who can benefit from this service are parents or other members of the family who belong to any of the following categories:

(a) craftsmen who are already working. They can be helped through the services offered by the project;

(b) unskilled citizens. They can be trained to acquire some technical skills;

(c) citizens who cannot acquire the required technical skills. They can benefit from simple commercial and agricultural projects.

Services of the project

Families can submit a request to obtain any of the following services:

equipment and machines, the price of which to be paid by instalments;

raw materials to be used in manufacturing products to be sold in order to pay back the price of raw materials;

loans to be paid back;

technical guidance and up-to-date drawings and catalogues. The applicant may join one of the specialized training centres to learn more about a certain production.

Types of training centres

(a) Centres for training young people.

(b) Centres for skill upgrading.

a. In order to join this type of training centre, young boys and girls submit applications to the social unit. After a social investigation is made by the unit, the applicant is guided according to vocational guidance to a suitable vocation. The trainee is trained on manual crafts related to: carpets, blankets, carpentry, leather work, palm trees products, agricultural products, wool, etc.

The period of training varies according to type of craft. For example, training on making carpets takes one year.

b. In the skill-upgrading centres, distinguished graduates of the first type can apply for joining these centres. A competitive exam is held for applicants and the best candidates are admitted into the centre. In this type of centre, the trainee acquires specialized skills so that he may be able to train young people. Training in these centres ranges from seven to ten months, according to the type of craft.

It is worth while noting that no schooling is required for joining any of these centres.

Chapter 4

Conclusions and recommendations

From this study of the various levels of the Egyptian labour force and the sources of preparation, we can notice the following:

First: Concerning entry requirements:

(1) As regards the general educational requirements, by which we mean the cultural levels required for admission to colleges, institutes, schools and centres for vocational education, we notice the following:

(a) the General Secondary Certificate (scientific section) is a requirement for admission to the university faculties (colleges) of engineering (in which engineers are prepared for five years), and to the technical institutes (in which technicians are prepared for two years). The secondary school programme covers three years, for 40 hours a week, comprising the following subjects: Arabic, religious education, two foreign languages (English and French), natural sciences (physics, chemistry and biology), mathematics, and two hours of practical activities;

(b) the Junior Secondary Certificate is a requirement for admission to technical secondary schools to prepare skilled labourers. The junior secondary school programme covers three years, for 36 hours a week, comprising the following subjects: Arabic, religious education, one foreign language, general science, hygiene, social sciences, practical activities, physical education and art education;

(c) the Junior Secondary Certificate is also a requirement for admission to vocational training centres. The programme in these centres covers from nine to 24 months to prepare semi-skilled workers;

(d) the Primary Certificate or the Literacy Certificate (equivalent to the standard of the fourth grade at the primary school) is a requirement for admission to the quick training centres in which the programme covers from four to ten months, and sometimes a year, to prepare the craftsman. The

primary school programme comprises the following subjects: basic communication skills, that is, mastering reading, writing and the basic four operations of arithmetic, elementary scientific culture, principles of personal health, social and environmental studies, environmental handicrafts and drawing;

(e) tens of thousands of young people join factories and private institutions without any cultural requirements. Besides, tens of thousands of illiterates join the army where they learn how to read and write and practise some vocations.

(2) As regards other non-cultural requirements for joining sources of technical and vocational preparation, the most important requirement is medical and physical fitness. Candidates are sometimes required to undergo personal and psychological tests. Besides, aptitude tests are sometimes administered to place candidates according to their aptitudes. Age is also one of the bases for joining institutes and centres for training engineers, technicians, skilled and semi-skilled workers:

the age of holders of General Secondary Certificate who join technical institutes ranges from 18 to 25 years;

the age of holders of Junior Secondary Certificate who join secondary technical schools ranges from 17 to 22 years;

the age of holders of Junior Secondary Certificate who join training centres for training semi-skilled workers ranges from 17 to 30 years;

the age of young people and adults who hold the Literacy Certificate and join governmental and private training centres to train craftsmen ranges from 12 to 40 years.

Second: Concerning technical education

The study has revealed the following:

(1) The students enrolled in the technical secondary schools do not have technical or vocational background that would serve as a foundation for the kind of education and training the students have at the technical secondary school.

In order to remedy this situation, many attempts have been made to develop the curricula of both primary and junior secondary (preparatory) stages in such a way as to include some practical activities which do not prepare students for a specific vocation, but to develop in them pre-vocational skills that would familiarize them with different vocations and help them choose the most suitable vocation(s) according to their interests, abilities and aptitudes.

Another attempt in this area has been to extend the period of compulsory education to nine years to include both the primary and preparatory stages which would form one stage known as basic education. Many studies are being conducted to work out suitable curricula that would include various practical activities related to the needs of the learners and the possibilities of the environment with the aim of developing pre-vocational skills.

(2) Another criticism has been levelled against the curricula of the technical secondary schools, in spite of several attempts to develop them.

It is unanimously agreed that the programmes are mainly theoretical. Not more than 33 per cent of the programme is devoted to practical training in workshops in these schools. This percentage does not agree with the 60 per cent of the programme recommended by Unesco in this respect.

Besides, it has been remarked that the students do not do any training in factories. Meanwhile, most of the workshops in the schools suffer from shortage of necessary equipment, not to mention the outdated machines and tools found in these workshops.

Another drawback lies in the methods of teaching which do not provide for the students functional training and the atmosphere required for actual production.

All these shortcomings have led to the weakness and low standard of most of the graduates of these technical secondary schools and their inability to cope with the requirements of the work in which they are employed.

Accordingly, about 25 per cent of the graduates are not employed in the vocations for which they have been prepared, nor do they continue their vocational training. They find themselves doing clerical work or other odd jobs.

In order to remedy this waste, different concerned bodies including the National Council for Education, and the Ministry of Labour and Training have discussed the various aspects of the problem. Necessary legislations are now being prepared to assign to big factories, by law, the responsibility of providing vocational training for students in technical secondary schools in the area.

Besides the suggested recommendations for developing the syllabi, textbooks and methods of teaching in order to develop the competencies (knowledge, skills and attitudes) required for productive work in different vocations, other recommendations are suggested, namely:

establishing new specializations to keep pace with scientific and technological development;

provision of up-to-date equipment;

provision of qualified teachers.

Third: Concerning the categories of workers who have not had any education or have not completed their education

Many projects have been set up to train people of different ages. To illustrate, we may cite two most successful and useful projects:

(1) The vocational gradation project, catering for the needs of youngsters. Young persons starting at the age of 12 and up to the age of 17, who have not completed their primary or junior secondary education, are encouraged to register their names at labour offices under the control of the Ministry of Labour and Training. These offices are within easy reach of all citizens, all over the country.

These offices undertake the responsibility of arousing the interest of employers in these young people to provide for their training. Every possible

help is given to these young people in the form of contracts concluded with employers, monetary incentives, as well as other facilities to get suitable training which should develop in these trainees some vocational skills.

In fact, the funds allocated for financing this kind of training of young people are considered by different people involved in the project to be adequate.

Firsthand information obtained from official documents as well as personal opinions of trainees, employers and responsible labour officers, gives the impression that the project renders great services to the labour market by providing big numbers of semi-skilled workers and to tens of thousands of individuals and their families.

(2) The productive families project: This is an economic social project which helps poor families through providing simple technical, agricultural and commercial projects for the benefit of poor families. Some members of these families are trained in order to acquire certain skills required for some vocations.

This project has been set up for the benefit of so many categories of citizens, including informally skilled craftsmen who need some help in one way or another, unskilled people who can benefit from training, citizens who cannot benefit from training but can be helped through some commercial or agricultural projects.

Great facilities are provided for these needy families to obtain equipment, machines, raw materials and loans according to very easy terms. Those who can benefit from training are given access to training centres where they can get the required training and vocational guidance. No schooling is required for joining these centres.

Training is given on different crafts and for different periods. Some trainees may be satisfied with simple training on a certain craft. Others who seek to upgrade their skills are given such opportunities for further training.

Fourth: Concerning training programmes

A careful examination of the training programmes given to different categories of workers reveals some quantitative as well as qualitative shortcomings:

(1) There seems to be unanimous agreement that education should not be limited to theoretical knowledge and information, but should provide for practical skills and favourable attitudes towards work and workers in the learners at different stages.

(2) On the other hand, it has been noticed that practical training in the programmes seems to be everything, whereas the cultural aspects are not given due attention. In fact, a worker should not be looked upon as a working machine, but as a human being who has the right to understand and enjoy life. Therefore, aesthetic aspects, moral and social values, reading, sports and games and other leisure-time interests have to be included in such training programmes.

(3) More up-to-date equipment and machines as well as technicians have to be provided for training the workers in order to upgrade their productivity.

However, as a developing country, Egypt faces the problem of shortage of funds. Hence, technical schools and other kinds of training centres have to

be considered production units. This will upgrade the productivity of both trainers and trainees and provide enough money to meet the expenses of financing training and increase the income of all the people involved in the training process.

(4) Almost all vocational training programmes require mastery of basic skills of reading, writing and arithmetic.

In the light of the enormous and rapid scientific and technological progress characterizing our contemporary world, vocational training will require more and more competencies on the part of the workers, if we aim at keeping pace with such progress.

Meanwhile, Egypt, like so many other developing countries, is suffering from a high percentage of illiteracy. A nation-wide campaign has to be launched to cope with the problem. This is a major project which does not need any further research to prove its feasibility. What is urgently needed, is the contribution of world organizations to help Egypt cope with this major national problem, if the prosperity and welfare of millions of people mean anything to the world conscience.

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APPENDIX

The Arab Republic Of Egypt
The National Center For Educational Research
July, 1979

Questionnaire Concerning Training and Vocational Formation For Those Who have not been Educated or have not Continued their Education

First: Size of Employment and Training In the Institution:

1. What is the total number of workers employed by the institution?
2. What is the percentage of those who have not been educated or not completed their education?
3. How many workers receive training?
4. What is the percentage of trainees who have not been educated or not completed their education?
5. How many days a week do people of this category get training?
6. How many hours a day do they get training?

Second: Financing Training:

1. Is there a specified budget for training activities?
   Yes....., No.....
2. What is the sources of financing training
   - The government
   - Institution and Companies
   - Bodies and Associations.
   - Contributions

- Foreign Aid
- Other sources (to be mentioned)

3. Are the funds for training adequate?
(Yes..... No .....)

Third: Trainees:

1. Mention the number of trainees who belong to each of the following categories:
   - Drop outs from Primary education
   - Completed primary education
   - Drop outs from preparatory education
   - Completed preparatory education
   - Drop outs from secondary education
   - Completed secondary education.
2. Do both sexes of trainees study together in the same center?
(Yes ..... No .....)
3. What is the age range of trainees?
(from ..... to .....)
4. How are trainees selected?
   - according to trainees and/or parents wishes (Yes..No..)
   - according to opinions of teaching staff in the center (yes ..... No.....)
   - according to age of trainee: the older/the younger (Yes ..... No .....)
   - psychological tests (Yes ..... No .....)
   - other means (to be mentioned)

5. What is the average period of training?
   (Month Year)
6. Is the trainee trained on one vocation to reach an acceptable standard of skill or on many vocations to discover his interests through practising these vocation?
   (One vocation ....., More than one vocation .....)
7. What is the standard of skill achieved by trainee at the end of training?
   (High skill ..... Average skill .....
   Below Average .....)
8. Are there material incentives for trainees?
   (Yes ..... No .....)
   - Kind of incentives: Monetary ..... percentage -----
     others ..... (to be mentioned)
   - How much ? (.....)
9. Are there other specific incentives.
   (Medical care/Meals/Social Care /Clothes/ Accommodation/Equipment)
   other (to be mentioned)
10. Are visits arranged for trainees to factories, companies and other places related to their vocations?
    (Yes ..... No .....)
11. Are there regular programs for field training in one of the production centers after they finish their training in the training center?

(Yes ..... No .....)

- How long? (Months Years)
- How far is it supervised by the training center
  full supervision.
  Combined
  Administrative supervision only.....
- Are the trainees paid for this field training
  (Yes ..... No .....)
- How much ? (.....)

12. Does the trainee have an opportunity for continuing training in an occupation he prefers to join in the future?(Yes ..... No .....)
    - When does this take place?
    - In the training center itself
    - In other specialised training center
13. What are the procedures followed for employing trainees after they finish training.
    - Contacting businessmen
    - " labour offices
    - establishing a co-operative society for them
    - Giving them financial or other specific aids to help them start work
14. Is there any study to estimate required workers for different occupationsin the future? (Yes ..... No....)
15. What is the average cost of training for each trainee in the center? (.....)

Fourth: Curricula

Curricula means all courses given to trainees in different subjects to upgrade their cultural standard (language, religion, national education arithmetic, social education and sciences) and drills to develop in the trainees the skills and experiences required for a certain occupation (Vocation) as well as the scientific and technological bases for these drills, in addition to various activities of trainees inside and/or outside centers for vocational formation or training.

1. On what bases are cultural subjects of study in the center selected?
   - Their relation to the work to be undertaken by graduate.
   - Their relation to vocation (occupation) on which he is trained at the center.
   - Their value for general culture.
   - Being a continuation and consolidation of previous culture studied by trainees.
2. Are courses in rural centers different from those in urban centers? (Yes ..... No .....)
   If yes, what are the main contents of each
   (in urban areas .....)
   (in rural areas .....)
3. Do courses vary according to sex of trainees (males/females)? Yes ..... No .....

- Are there specific occupations for each sex? What are they?

  (For males .....)

  (For females .....)

4. What kind of study is each type of training?

   (Practical training)

   (Technical and theoretical education)

   (Cultural education)

5. What is the percentage of training devoted to each of the following areas?

   - practical training ..... %
   - Technical + theoretical education (Technological and technical bases) ..... %
   - Cultural education .....

   Do these percentages vary according to

   - rural/urban areas: (Yes ..... No .....)
   - males/females (Yes ..... No .....)
   - Age (Yes ..... No .....)

6. In selecting topics for practical training is priority given to skills very much in demand and which provide for trainee better chances for finding a job?

   (Yes ..... No .....)

   - Have the prospective projects in the area been taken into consideration? (Yes ..... No .....)

7. Is priority in training given to utilising and exploiting raw materials in the envrionment?

   (Yes ..... No .....)

8. Is training carried out according to plan participated in by local production units?
   (Yes ..... No.....)
   - Are businessmen and owners of factories, companies and institutions interested in visiting centers and examining courses, standards of trainees and methods and techniques of training? (Yes ..... No .....)

9. Is there a study of characteristics and trends of development in the employment market concerning industries and occupations?
   (Yes ..... No .....)
   - What are the results of such study and what are its reflection on curricula?
   - Introducing new vocations
   - Some existing occupations have been abolished according to these results.

Fifth: Trainers and Teachers:

1. In selecting teaching and training staff, has care been taken to give practical training and technical education to one teacher and to give cultural education to another? (Yes ..... No .....)

2. Is there shortage in the training staff?
   (Yes: great shortage)
   (Yes: shortage that can be met)
   (No : .....)
   - How can this shortage be met?

3. Are there financial incentives for teaching and training staff?

(Yes ..... No .....)

- On what bases are they given?
  - Regular attendance
  - Production.
- How much are they?
  - in proportion to salary
  - in proportion to sales prices
  - in proportion to net profit of sales.

4. Is the trainer a full-timer/or part-timer?

Full-timer

Part-timer

Sixth: Methods of Training:

1. What is the general nature of training in the center?
   - of practical nature
   - of academic nature
2. Are methods of training influenced by direction of employers? (Yes ..... No .....)
   - How far?
     - Completely influenced
     - Partly influenced
     - Not influenced.
   - What is the relation between employers and centers in this respect?
     - Strong relation

- limited relation
- no relation.

3. Do these methods lead to the production of useful articles which trainees feel important and useful to them? (Yes ..... No .....)
   - If so, what is the basis of selecting the articles to be produced?
     - according to needs of trainees.
     - according to needs of the market
     - according to variety in experiences for their production.
     - according to profit gained from them.
4. Are trainees encouraged to bring some raw materials and manufacture them for their personal benefit?
   - How far is this successful?
     - very successful
     - somewhat successful

Seventh: Follow-up and Evaluation:

A. Trainees:

1. Are the trainees evaluated during the train' g session? (Yes ..... No .....)
   - What kind of evaluation?
     - Only theoretical
     - Only practical
     - both theoretical and practical.

2. Are trainees evaluated at the end of training?
(Yes ..... No .....)
- What kind of evaluation?
  - Only theoretical
  - Only practical
  - both theoretical and practical
- Is evaluation central or local?
  - Central
  - Local
- Do representatives of workers participate in it?
  (Yes ..... No .....)

3. Do graduates get certificates? (Yes ..... No .....)
- Is the standard of trainee in the occupation on which he has been trained specified in the certificate? (Yes ..... No .....)
- Is this certificate officially recognized?
  (Yes ..... No .....)

B. Follow-up of Graduates:

1. Is there a follow-up system for graduates?
(Yes ..... No .....)

2. What is the percentage of graduates who have found jobs that would allow them to make use of skills and knowledge developed through training? ..... %

3. What is the percentage of graduates who have completed their training in other specialized centers? ..... %

4. Has vocational formation contributed to the shortening of normal period for vocational training of graduates? (Yes ..... No .....)

5. What is the percentage of graduates who have started private business and have increased their income? ..... %

6. What is the percentage of graduates of rural centers who have remained in their native villages or settled down in other rural areas ? ..... %

- What is the percentage of those who have emigrated to urban areas? ..... %

C. Curricula:

1. What are the methods of evaluating curricula?

- Who undertakes this evaluation?
  - The supervisory body.
  - Specialized inspectors
  - Center's director
  - Trainers and Teachers.
  - Trainees.
- When is evaluation done ?

  Every ..... month(s)

  Every ..... year(s)

2. How far are curricula influenced by this evaluation?

- Greatly influenced
- Slightly influenced.